

REMARKS

Claims 19-40 have been cancelled and new claims 41-52 have been added so that claims 1-18 and 41-52 are now in the application.

Claim 1 is distinguished over the references Hiramoto, Katsuragawa and Sano by reciting:

"an insulation stack with a coil layer embedded therein located between the first and second pole piece layers wherein the insulation stack includes at least one baked photoresist insulation layer that has been formed in part by heating at a preselected annealing temperature in the presence of a magnetic field that is directed perpendicular to said ABS;

the insulation stack having been formed subsequent to said sensor and at least the first pole piece layer and/or second shield layer having not been subjected to annealing in the presence of a magnetic field directed parallel to said ABS before said heating of the layer of the insulation stack; and

at least one of the first and second shield layers and the first and second pole piece layers comprising NiFeCo-O-N or NiFeCo-N."

A brief discussion of the NiFeCo-O-N or NiFeCo-N material for shield or pole layers is found in Applicant's Summary of the Invention from page 4, line 25 to page 5, line 13 and a description of this material having not been annealed in the presence of a magnetic field directed parallel to said ABS before the heating of the layer of the insulation stack is discussed in Applicant's specification, page 4, lines 5-22. Claim 10, which recites similar limitations as claim 1, is considered to be patentable over the references for the same reasons as given in support for claim 1. Claims 2-9, which are dependent upon claim 1, are considered to be patentable over the references for the same reasons as given in support for claim 1. Claim 5 is further distinguished over the references by reciting the second pole piece layer as comprising a laminated layer of NiFeCo-O-N films and interlayer films of Al_2O_3 or SiO_2 . Claim 6 is further distinguished by reciting a seed layer for the second pole piece layer comprising NiFeCo-O-N where the seed layer has higher oxygen and nitrogen contents than the NiFeCo-O-N of the second pole piece layer. Claim 7 is further distinguished over the references by reciting the seed layer as being located between a bottom layer of SiO_2 and the second shield layer. Claim 8 is further distinguished by reciting the laminated layer as including four NiFeCo-O-N films that are substantially 4500 Å thick. Claim 9 is further

distinguished by reciting the second shield layer as comprising NiFeCo-N. Claims 13-18, which recite similar limitations as claims 4-9 are considered to be patentable over the references for the same reasons as given in support for claims 4-9.

New claim 41 is distinguished over the references by reciting:

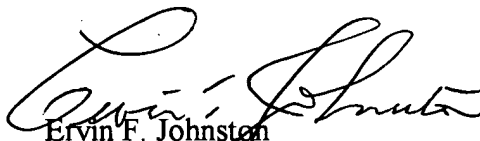
"an insulation stack with a coil layer embedded therein located between the first and second pole piece layers wherein the insulation stack includes at least one baked photoresist insulation layer; and

at least one of the first shield layer and the first and second pole piece layers comprising NiFeCo-O-N or NiFeCo-N and having an in-plane uniaxial anisotropy field H_K from 2.6 Oe to 6.0 Oe."

The shield or first and second pole piece layers comprise NiFeCo-O-N or NiFeCo-N and have an in-plane uniaxial anisotropy field H_K field from 2.6 Oe to 6.0 Oe. This is shown by Examples VIII to XIII in Chart B on page 15 of Applicant's specification wherein H_K varies from 2.6 Oe to 6.0 Oe. This level of the uniaxial anisotropy field H_K has not been obtained by the prior art and is obtained by Applicant's process as described in his specification. Claim 47, which recites similar limitations as claim 41, is considered to be patentable over the references for the same reasons as given for claim 41. Claims 42-46, which are dependent upon claim 41, are further distinguished over the references for the same reasons as given in support for claims 5-9 hereinabove. New claims 48-52, which are dependent upon claim 47, are considered to be patentable over the references for the same reasons as given in support for claims 42-46.

Should the Examiner have any questions regarding this document he is respectfully requested to contact the undersigned.

Respectfully submitted,


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